



#5

sequences.patentin.ST25
SEQUENCE LISTING

<110> Lloyd, R. Stephen
McCullough, Amanda K.
Nguyen, Khoa

<120> DNA REPAIR POLYPEPTIDES AND METHODS OF USE

<130> 265.00170101

<140> 09/864,866

<141> 2001-05-23

<150> US 60/206,279

<151> 2000-05-23

<160> 49

<170> PatentIn version 3.0

<210> 1

<211> 18

<212> PRT

<213> Artificial

<220>

<223> A mitochondrial localization sequence

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Met Ala Leu His Ser Met Arg Lys Ala Arg Glu Arg Trp Ser Phe Ile
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Arg Ala

<210> 2

sequences.patentin.ST25

<211> 55

<212> DNA

<213> Artificial

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<223> Oligonucleotide primer

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tatggcgta catagcatgc gcaaagcgcg cgaacgctgg agctttatta gagca 55

<210> 3

<211> 55

<212> DNA

<213> Artificial

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<223> Oligonucleotide primer

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<211> 35

<212> DNA

<213> Artificial

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<223> Oligonucleotide primer

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<211> 38

<212> DNA

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sequences.patentin.ST25

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<223> oligonucleotide primer

<400> 5

gcacgcggat ccttaattat tgctggtttt agctttcg

38

<210> 6

<211> 27

<212> DNA

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<213> Artificial

<220>

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atacggggta ccaccatggc gttacatagc atgcg

35

<210> 9

sequences.patentin.ST25

<211> 34

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 9

gcacgcggat ccttatgcat aaatcgctt accg

34

<210> 10

<211> 27

<212> DNA

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<223> oligonucleotide primer

<400> 10

gctttattag agcaactcgt atcaacc

27

<210> 11

<211> 26

<212> DNA

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ggttgatacg agttgctcta ataaac

26

<210> 12

<211> 106

<212> DNA

<213> Artificial

sequences.patentin.ST25

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tatgggcgtg ttttgcttag gcccggtggg cttaggccgc aaattacgca ccccgggcaa 60

aggcccggtta cagttattat cgcgcttatg cggcgatcat ttacag 106

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<211> 105

<212> DNA

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<223> Oligonucleotide primer

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cgttaattgc ggcctaagcc ccacgggcct aagcaaacac gccca 105

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<211> 38

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<223> Oligonucleotide primer

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sequences.patentin.ST25
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ggcgatcatt tacagactcg agtgaatctc gtaccg 36

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cggtacgaga ttcactcgag tctgtaaatg atcgcc 36

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<400> 19

gcacgcggat ccttatgcat aaatcgcctt accg

34

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ggcgatcatt tacagactcg tatcaacctt ac

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<210> 21

<211> 32

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<223> oligonucleotide primer

<400> 21

gtaaggttga tacgagtctg taaatgatcg cc

32

<210> 22

<211> 34

<212> DNA

<213> Artificial

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<223> oligonucleotide primer

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sequences.patentin.ST25
atacgggggtc caccatggcg ttacatagca tgcg 34

<210> 23

<211> 38

<212> DNA

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<220>

<223> oligonucleotide primer

<400> 23

gcacgcggat ccttaattat tgctggtttt agctttcg 38

<210> 24

<211> 34

<212> DNA

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<220>

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atacggggta ccacatgac acgtgtgaat ctcg 34

<210> 25

<211> 34

<212> DNA

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<223> oligonucleotide primer

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gcacgcggat cctaattgat aaatcgcctt accg 34

<210> 26

<211> 45

<212> DNA

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<210> 27

<211> 8

<212> PRT

<213> Artificial

<220>

<223> A consensus nuclear localization sequence

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Pro Lys Lys Arg Lys Arg Arg Leu
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<210> 28

<211> 30

<212> DNA

<213> Artificial

<220>

<223> Oligonucleotide primer

<400> 28

ccgggccaaa gaagaggaaa aggaggctac

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<210> 29

<211> 30

<212> DNA

<213> Artificial

<220>

<223> Oligonucleotide primer

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ccgggtagcc tccttttcct cttctttggc 30

<210> 30

<211> 8

<212> PRT

<213> Artificial

<220>

<223> A consensus nuclear localization sequence

<400> 30

Pro Lys Lys Lys Arg Lys Arg Leu
1 5

<210> 31

<211> 30

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 31
ccgggccaaa gaaaaagagg aagaggctac 30

<210> 32

<211> 30

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 32
ccgggtagcc tcttcctctt tttctttggc 30

<210> 33

<211> 54

sequences.patentin.ST25

<212> DNA

<213> Artificial

<220>

<223> Nucleotides encoding a mitochondrial localization sequence

<400> 33

atggcggttac atagcatgcg caaagcgcg gaacgctgga gctttattag agca 54

<210> 34

<211> 105

<212> DNA

<213> Artificial

<220>

<223> Nucleotides encoding a mitochondrial localization sequence

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atgggcgtgt tttgcttagg cccgtggggc ttaggccgca aattacgcac cccgggcaaa 60

ggccccgttac agttattatc gcgcttatgc ggcgatcatt tacag 105

<210> 35

<211> 34

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 35

atacggggta ccacatgac acgtgtgaat ctcg 34

<210> 36

<211> 36

<212> DNA

<213> Artificial

<220>

sequences.patentin.ST25

<223> oligonucleotide primer

<400> 36
tttcgcgat cctagcctcc tcctcctttt ctttgg 36

<210> 37

<211> 39

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 37
tttcgcgat ccttatagcc tcctcctcct tttccttgg 39

<210> 38

<211> 45

<212> DNA

<213> Artificial

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<223> oligonucleotide primer

<400> 38
gacgggtac caccatgact cgtatcaacc ttacttttagt atctg 45

<210> 39

<211> 36

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 39
tttcgcgat cctagcctcc ttttcctctt ctttgg 36

<210> 40

sequences.patentin.ST25

<211> 39

<212> DNA

<213> Artificial

<220>

<223> oligonucleotide primer

<400> 40

tttcgcggat ccttatagcc tccttttcct cttcttttg

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<210> 41

<211> 141

<212> PRT

<213> Chlorella virus

<400> 41

Met	Thr	Arg	Val	Asn	Leu	Val	Pro	Val	Gln	Glu	Leu	Ala	Asp	Gln	His
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Leu	Met	Ala	Glu	Phe	Arg	Glu	Leu	Lys	Met	Ile	Pro	Lys	Ala	Leu	Ala
			20					25					30		
Arg	Ser	Leu	Arg	Thr	Gln	Ser	Ser	Glu	Lys	Ile	Leu	Lys	Lys	Ile	Pro
		35					40					45			
Ser	Lys	Phe	Thr	Leu	Asn	Thr	Gly	His	Val	Leu	Phe	Phe	Tyr	Asp	Lys
	50					55					60				
Gly	Lys	Tyr	Leu	Gln	Gln	Arg	Tyr	Asp	Glu	Ile	Val	Val	Glu	Leu	Val
65					70					75					80
Asp	Arg	Gly	Tyr	Lys	Ile	Asn	Val	Asp	Ala	Lys	Leu	Asp	Pro	Asp	Asn
				85					90					95	
Val	Met	Thr	Gly	Glu	Trp	Tyr	Asn	Asp	Tyr	Thr	Pro	Thr	Glu	Asp	Ala
			100					105					110		
Phe	Asn	Ile	Ile	Arg	Ala	Arg	Ile	Ala	Glu	Lys	Ile	Ala	Met	Lys	Pro
		115					120					125			
Ser	Phe	Tyr	Arg	Phe	Thr	Lys	Ala	Lys	Thr	Ser	Asn	Asn			
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<210> 42

<211> 138

<212> PRT

<213> Bacteriophage T4

sequences.patentin.ST25

<400> 42

Met Thr Arg Ile Asn Leu Thr Leu Val Ser Glu Leu Ala Asp Gln His
 1 5 10 15
 Leu Met Ala Glu Tyr Arg Glu Leu Pro Arg Val Phe Gly Ala Val Arg
 20 25 30
 Lys His Val Ala Asn Gly Lys Arg Val Arg Asp Phe Lys Ile Ser Pro
 35 40 45
 Thr Phe Ile Leu Gly Ala Gly His Val Thr Phe Phe Tyr Asp Lys Leu
 50 55 60
 Glu Phe Leu Arg Lys Arg Gln Ile Glu Leu Ile Ala Glu Cys Leu Lys
 65 70 75 80
 Arg Gly Phe Asn Ile Lys Asp Thr Thr Val Gln Asp Ile Ser Asp Ile
 85 90 95
 Pro Gln Glu Phe Arg Gly Asp Tyr Ile Pro His Glu Ala Ser Ile Ala
 100 105 110
 Ile Ser Gln Ala Arg Leu Asp Glu Lys Ile Ala Gln Arg Pro Thr Trp
 115 120 125
 Tyr Lys Tyr Tyr Gly Lys Ala Ile Tyr Ala
 130 135

<210> 43

<211> 268

<212> PRT

<213> Micrococcus luteus

<400> 43

Met Glu Thr Glu Ser Thr Gly Thr Pro Thr Gly Glu Thr Arg Leu Ala
 1 5 10 15
 Leu Val Arg Arg Ala Arg Arg Ile Asp Arg Ile Leu Ala Glu Thr Tyr
 20 25 30
 Pro Tyr Ala Val Ala Glu Leu Asp Phe Glu Thr Pro Phe Glu Leu Leu
 35 40 45
 Val Ala Thr Val Leu Ser Ala Gln Thr Thr Asp Val Arg Val Asn Ala
 50 55 60
 Ala Thr Pro Ala Leu Phe Ala Arg Phe Pro Asp Ala His Ala Met Ala
 65 70 75 80
 Ala Ala Thr Glu Pro Glu Leu Gln Glu Leu Val Arg Ser Thr Gly Phe
 85 90 95
 Tyr Arg Asn Lys Ala Ser Ala Ile Leu Arg Leu Ser Gln Glu Leu Val
 100 105 110

sequences.patentin.ST25

Gly Arg His Asp Gly Glu Val Pro Ala Arg Leu Glu Asp Leu Val Ala
115 120 125
Leu Pro Gly Val Gly Arg Lys Thr Ala Phe Val Val Leu Gly Asn Ala
130 135 140
Phe Gly Gln Pro Gly Ile Thr Val Asp Thr His Phe Gly Arg Leu Ala
145 150 155 160
Arg Arg Leu Gly Phe Thr Asp Glu Thr Asp Pro Gly Lys Gly Arg Ala
165 170 175
Arg Arg Gly Arg Pro Val Pro Pro Ala Arg Asp Trp Thr Met Leu Ser
180 185 190
His Arg Leu Ile Phe His Gly Arg Arg Val Cys His Ala Arg Arg Pro
195 200 205
Ala Cys Gly Arg Cys Pro Ile Ala Arg Trp Cys Pro Ser Tyr Ala Ala
210 215 220
Gly Glu Thr Asp Pro Glu Arg Ala Arg Ala Leu Leu Ala Tyr Glu Leu
225 230 235 240
Lys Pro Gly Arg Glu Glu Leu Leu Glu Leu Leu Arg Ala Gly Arg Thr
245 250 255
Ala Gly Ala Ala Gly Pro Arg Pro Arg Ala Gly Gly
260 265

<210> 44

<211> 426

<212> DNA

<213> chlorella virus

<400> 44

atgacacgtg tgaatctcgt accggttcaa gaattagctg accagcatct catggcagaa 60
tttcgtgaac ttaagatgat tccgaaggca ctcgcaagaa gtcttcgaac tcaatcgtcc 120
gaaaaaatat tgaagaagat cccatcaaaa ttactctga acactggtca tggtctgttc 180
ttttacgata aaggcaagta ttgcaacaa cgatacgacg aaattgtcgt tgaacttgtt 240
gatagggggt ataagataaa cgttgacgct aaactcgacc ctgataacgt gatgacggga 300
gagtgggtaca atgattacac cccaacagaa gatgcggtta atattattcg agcgaggatt 360
gccgaaaaaa tcgctatgaa gccaagtttt tacaggttca cgaaagctaa aaccagcaat 420
aatataa 426

<210> 45

<211> 417

sequences.patentin.ST25

<212> DNA

<213> Bacteriophage T4

<400> 45

atgactcgta tcaaccttac tttagtatct gaattggctg accaactt aatggctgaa	60
tatcgtgaat tgccgcgtgt ttttggtgca gttcgtgaagc atgttgctaa cggtaaacgt	120
gttcgtgatt ttaaaatcag tcctactttt atccttggcg caggatcatgt tacattcttt	180
tacgataagc tcgagttctt acgtaaacgt caaattgagc ttatagctga atgtttaaaa	240
cgtgggtttta atatcaagga tactacagtc caggatatta gtgatattcc tcaggaattc	300
cgtggtgatt atattcccca tgaagcttct attgctatat cacaagctcg tttagatgaa	360
aaaattgcac aacgtcctac ttggtacaaa tactacggta aggcgattta tgcataa	417

<210> 46

<211> 968

<212> DNA

<213> Micrococcus luteus

<400> 46

atgcgcccgg aagcgggggc cggacccggt gtggacgtcg catgcgcccc gtcacctagg	60
atgggtcggac ctgagcggat cgcacgaggg cgggaggaca cgcggatgga gacggagtcg	120
acgggcacgc cgaccgggga gaccgggctg gccctggtgc gccgggcgcg gcggatcgac	180
cggatcctgg ccgagacgta cccgtacgcc gtcgccgagc tggacttcga gacgccgttc	240
gagctgctcg tggccacggt gctgtccgcc cagaccaccg acgtgcgggt caacgcagcc	300
acgccggcgc tgttcgcccc cttcccggat gccacgcga tggccgcggc caccgagccc	360
gagctgcagg agctcgtgcg ctccacgggg ttctaccgga acaaggcctc cgcgatcctg	420
cggctgtccc aggagctcgt gggccggcac gacggcgagg tccccgccc tctcaggagac	480
ctcgtggcgc tgcccggggt gggccgcaag accgcgttcg tggtgctcgg caacgccttc	540
ggccagcccc ggatcacctt ggacacgcac ttcggccggc tcgcccggcg cctgggggttc	600
acggacgaga ccgacccggg taaaggctga gcacgccgtg ggcgccctgt tcccccgcc	660
cgggactgga cgatgctctc ccaccggctg atcttcacg gccgccgcgt gtgccacgcg	720
cgccgcccgg cgtgcgggcg gtgcccgatc gcccgctggt gcccgctcta cgccgcgggg	780
gagaccgacc ccgagcgggc gcgcgccctg ctggcctacg agctcaagcc cggccgggag	840
gagctgctcg agctcctgcg cgcggggcgg acggcgggag ctgcggggcc tcggccacgg	900

sequences.patentin.ST25

gctggaggct gagcgcccg cctgcccgt cagccttttc ggtgagaccc gcgagatcgc 960
gaccgccg 968

<210> 47
<211> 35
<212> PRT
<213> Artificial

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<223> A mitochondrial localization sequence

<400> 47

Met Gly Val Phe Cys Leu Gly Phe Trp Gly Leu Gly Arg Lys Leu Arg
1 5 10 15
Thr Phe Gly Lys Gly Pro Lys Gln Leu Leu Ser Arg Leu Cys Gly Asp
20 25 30
His Leu Gln
35

<210> 48
<211> 24
<212> DNA
<213> Artificial

<220>

<223> Nucleotides encoding a nuclear localization sequence

<400> 48
ccaaagaaga ggaaaaggag gcta 24

<210> 49
<211> 24
<212> DNA
<213> Artificial

<220>

<223> Nucleotides encoding a nuclear localization sequence

<400> 49

ccaaagaaaa agaggaagag gcta

sequences.patentin.ST25

24